



**Australian Government**

# **ICTDRE314 Design communications wiring systems for customer premises**

**Release: 1**

# ICTDRE314 Design communications wiring systems for customer premises

## Modification History

| Release   | Comments                                                                                               |
|-----------|--------------------------------------------------------------------------------------------------------|
| Release 1 | This version released with ICT Information and Communications Technology Training Package Version 5.0. |

## Application

This unit describes the skills and knowledge required to design a smart cable wiring system on customer premises.

It applies to individuals employed in a technical capacity for the emerging information technologies and applications in domestic and small to medium enterprises.

Work functions in the occupational areas where this unit may be used are subject to regulatory requirements. Refer to the ICT Implementation Guide Companion Volume or the relevant regulator for details of licensing, legislative or certification requirements.

## Pre-requisite Unit

ICTCBL247 Install, maintain and modify customer premises communications cabling:  
ACMA Open Rule

## Unit Sector

Telecommunications – Digital Reception Technology

## Elements and Performance Criteria

| ELEMENT                                           | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                      |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i>  | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                    |
| 1. Prepare to design a wiring system for premises | 1.1 Consult customer and visit worksite to determine immediate and future functional needs of the cabling system<br>1.2 Identify and document immediate and future location of cabling system customer interface elements, and seek confirmation from appropriate persons |

| ELEMENT                                | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | 1.3 Review technology used to deliver functional needs<br>1.4 Identify specific service provider requirements and requirements of applicable standards, codes and regulations                                                                                                                                                                                                                                                                                                     |
| 2. Design a wiring system for premises | 2.1 Follow work health and safety (WHS) procedures when carrying out work<br>2.2 Transfer functional needs of customer to architectural plans<br>2.3 Determine size and location of home distributor, security system, carrier and carriage service facilities, antennas and switch boards<br>2.4 Identify cable pathways and cable support systems<br>2.5 Select appropriate cable types to meet functional needs<br>2.6 Develop cable identification method to aid installation |
| 3. Document cable wiring system design | 3.1 Document customer interface elements room by room<br>3.2 Document requirements for home distributor, security system, carrier and carriage service facilities, antennas and switch boards<br>3.3 Document testing and commissioning requirements<br>3.4 Specify user documentation required after completion of installation<br>3.5 Provide customer quote that includes a bill of materials and a project schedule                                                           |

## Foundation Skills

*This section describes those language, literacy, numeracy and employment skills that are essential to performance, but not explicit in the performance criteria.*

| Skill   | Description                                                                                                                                                                                                                                                                                                                    |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reading | <ul style="list-style-type: none"><li>Reads and interprets plans, specifications and other documentation from a variety of sources and consolidates information to determine requirements</li><li>Analyses and consolidates test results and data from a range of sources, against defined criteria and requirements</li></ul> |
| Writing | <ul style="list-style-type: none"><li>Develops procedural material for a specific audience using clear and detailed language to convey explicit information, requirements and recommendations</li><li>Produces plans and specifications to industry standards conveying design function and operation</li></ul>                |

| Skill                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oral Communication         | <ul style="list-style-type: none"><li>Effectively participates in verbal exchanges using collaborative and inclusive techniques including active listening and questioning and reading of verbal and non-verbal signals to convey and clarify information</li></ul>                                                                                                                                                                    |
| Numeracy                   | <ul style="list-style-type: none"><li>Makes calculations appropriate for measuring and estimating materials and costing</li><li>Performs mathematical calculations to establish scale and dimensions of design plans</li></ul>                                                                                                                                                                                                         |
| Navigate the world of work | <ul style="list-style-type: none"><li>Accepts responsibility and ownership for tasks and makes decisions on completion parameters and need for coordination with others</li><li>Explores and implements, where identified, implicit expectations of policies, procedures and regulatory requirements</li></ul>                                                                                                                         |
| Interact with others       | <ul style="list-style-type: none"><li>Identifies and takes steps to follow accepted communication practices and protocols</li><li>Recognises common cultural and other differences of people in the work context and makes adjustments in addressing differences</li></ul>                                                                                                                                                             |
| Get the work done          | <ul style="list-style-type: none"><li>Takes responsibility for planning, sequencing and prioritising tasks and own workload for efficiency, and effective outcomes</li><li>Makes routine decisions and implements standard procedures for routine tasks, using formal decision-making processes for more complex and non-routine situations</li><li>Identifies ideas for applications and considers them in current contexts</li></ul> |

## Unit Mapping Information

ICTDRE314 Design communications wiring systems for customer premises supersedes and is equivalent to ICTDRE304 Design communications wiring systems for customer premises.

## Links

Companion Volume Implementation Guides are available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

# Assessment Requirements for ICTDRE314 Design communications wiring systems for customer premises

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## Performance Evidence

The candidate must demonstrate the ability to perform the tasks outlined in the elements, performance criteria, and foundation skills, and to:

- capture customer functional needs for wiring system
- apply industry standards, regulations and codes of practice when designing a wiring system for a customer
- develop a detailed design in compliance with industry practices, including signal losses and/or expected measurements to be achieved at wall plates
- document the design, including a bill of materials, schedule of work and associated costs and submit to customer.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

## Knowledge Evidence

The candidate must demonstrate the knowledge required to perform the tasks outlined in the elements, performance criteria, and foundation skills, which includes knowledge about:

- cabling standards, regulations and codes applicable to cable design
- building regulations that apply to installation of cabling systems
- codes of practice and Australian Communications and Media Authority (ACMA) standards for home wiring
- carrier network delivery systems used in single dwelling and multi-dwelling units for:
  - fibre
  - fixed wireless
  - satellite
  - twisted copper pair
  - subscription TV
- cabling requirements of home technology applications taking into account:

- the user needs including age and assisted living conditions
- communications
- digital home health
- energy management
- entertainment
- intelligent light and power
- security and safety
- testing and commissioning methods and determine performance requirements for home technologies
- customer interface elements commonly considered when designing a wiring system
- common service providers clients may specify
- safety implications of the design for users
- design parameters for cable selection and support system of a wiring system
- documentation required when submitting a design to a customer.

## Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances should be typical of those experienced in the Telecommunications – Digital Reception Technology industry and include access to:

- a contemporary dwelling design
- a specification of a customer's functional requirements
- current standards, codes of practice and regulations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

## Links

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